

RHEOTEK™ AKV8000 Automated Viscometer

For determination of viscosity of petroleum products

Model Name: AKV Single Temperature



FULLY AUTOMATED VISCOMETER to determine...

- **Kinematic Viscosity**

Test Methods

ASTM D 445/6, IP 71, ISO 3104/5, ASTM D 2270

Main Features

Up to 8 independent automated viscometers allows simultaneous measurement of 8 samples
2 Flow times measured per sample
Accurate measurement of flow times to 0.001s using sensors
Automatic calculation of results
Automatic "in-situ" cleaning of viscometers
Unique sample filling station

Advantages

Fast, Simple & Safe to use
Improves accuracy
Saves operator time
Reduces exposure to hazardous solvents
Compliance with test methods



For more information contact
www.rheotek.com
info@rheotek.com

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Description

Typical Measurement Routine

The AKV8000 is designed to automate the manual steps in the Test Method. The operator simply pours the sample into the Filling Station, types in the sample details and then presses Start Test. Each viscometer has its own Filling Station, which means that up to 4 viscometers can run simultaneously. The AKV then measures the sample flow time in duplicate to obtain a determined result as per the Test Method.

Automatic Calculations, Results Database & LIMS

Following a successful flow time measurements the AKV software calculates the Kinematic Viscosity. Results are printed and/or stored for review at a later date. Results can also be exported automatically for use by a LIMS system.



Automatic “Safe-Vac” Cleaning

Once the measurement is complete the AKV automatically cleans and dries the viscometer tube ready for another measurement. The RHEOTEK Applications Team have worked hard to develop cleaning routines specifically for most samples. Each stage is carefully controlled to clean all parts of the viscometer tube. The AKV minimises solvent usage through carefully controlled software parameters. Our aim is to completely remove the sample from the capillary viscometer and associated tubing etc. This means that the viscometer is clean and dry and there is **NO CONTAMINATION** for the next sample. The viscometer is cleaned very efficiently – it really has to be seen to be believed. Cleaning is carried out under vacuum. We call this our **Safe Vac** system - completely under vacuum in a sealed solvent system – with no chance of solvent escaping. The cleaning is very effective and is one reason why the accuracy of the AKV is so good.

Thermostatic Stirred Liquid Bath

The AKV uses a stirred liquid bath to control the temperature of the sample within $\pm 0.005^{\circ}\text{C}$ of the required temperature. The required temperature can be programmed by the operator.

Ubbelohde, Low Volume Ubbelohde or Cannon Fenske Routine viscometer

The AKV normally uses a Ubbelohde type capillary viscometer, manufactured from borosilicate glass to ASTM & ISO standards. The Ubbelohde design is one of the most accurate viscometers available, and is more accurate than either Cannon Fenske or BS U tube. Viscometers are supplied with **UKAS Calibration** certificates, traceable and in accordance with ISO 17025. Other types of viscometer such as Cannon Fenske Routine & Low Volume Ubbelohde are also available for use with the AKV.



CALIBRATION No. 0247



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Flow time measurement & nIR detection system

Viscometers are held in a measuring stand, which has sophisticated near Infra Red sensors [nIR]. Flow times are measured accurately within 0.001 seconds. The use of n-IR sensors also allows the determination of opaque and coloured samples. Flow times can be as fast as 10 seconds, with the option to apply the Hagenbach correction automatically. If required viscometers can be removed quickly and easily in under 60 seconds.

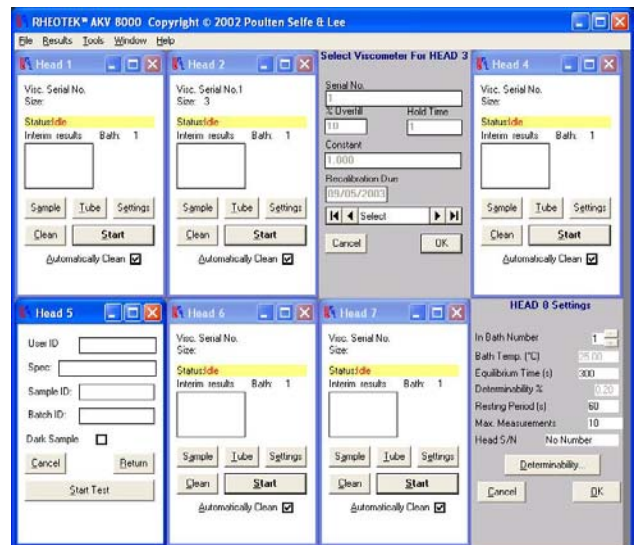
Software

Windows 98 & Windows XP Pro compatible

The AKV software is compatible with all versions of windows from Windows 98 to Windows XP Professional.

The software is updated regularly with new enhancements.

The AKV can support up to 8 viscometers as demonstrated opposite.



Service

Service & Manuals

The AKV was designed with service in mind. Valves are rebuildable. Case doors come off so they are out the way during service. The electronics is removable for replacement or service away from the main instrument. All boards plug together for easy replacement. Full manuals are supplied with the instrument.

Specification

- Temperature range (°C): 15 to 135
- Temperature stability – typical (°C): +/-0.01
- Viscosity range – typical (mm²/s): 1 to 1500
- Measurement cycle typ. (minutes): 20
- Determinability, Repeatability & Reproducibility according to ASTM D 445/6, IP 71, ISO 3104/5



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Typical Applications

- Lube Oils
- Blending Plant

Models Available

There are two main models of AKV,

4 Position Single Bath

8 Position Dual Bath

We can offer variations of these instruments to cater for budgetary requirements.

PSL Testing Laboratory

Take advantage of Poulten Selfe & Lee's Testing Laboratory. Send us a sample for correlation with your own laboratory. The cost of analysis is very competitive and we can offer a wide range of different test methods. Full method details are supplied if required.

Please contact us for more information...info@rheotek.com



Related Products

Non-toxic Mercury Free Thermometers

The Performatherm thermometers meet the requirements of ASTM E 2251, which means they can be used for ASTM methods in place of their mercury equivalent. Save time and money, improve safety and help the environment by changing to Performatherm.



Viscosity Standards

Confirm your measuring accuracy by using a viscosity standard



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